International Journal of Multidisciplinary Research and Publications
ISSN (Online): 2581-6187

Analysis of Differences in the Levels of Financial Distress in the First and Second Years During the Covid-19 Pandemic

Akhmad Bagus Sudrajat[1], Yuli Tri Cahyono[2]
[1]Faculty of Economic and Business, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
[2]Faculty of Economic and Business, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
Email address: bagussakhmad@gmail.com, ytc115@ums.ac.id

Abstract— *This study aims to identify and analyze differences level of financial distress in the first and second years during the Covid-19 pandemic in companies listed on the Indonesia Stock Exchange (IDX) for the 2020 and 2021 periods. This type of research is quantitative research using a purposive sampling technique that produces 58 samples. The data collection technique for this research uses documentation obtained from the financial statements of public companies published on the IDX through the IDX's official website www.idx.co.id. The results of the Chi Square test data analysis showed that there was no significant difference between the level of Financial Distress in the first and second years during the Covid-19 pandemic. It can be concluded that the average level of Financial Distress in the first and second years during the Covid-19 pandemic has a value that is not much different.*

Keywords— *Financial Distress, Covid-19.*

I. INTRODUCTION

Financial problems are a common problem in a company. However, if it continues, it can become a serious problem that can lead to financial distress. Financial Distress have a very close relationship with the risk of bankruptcy that occurs in the company as a result of which the company is unable to fulfill its obligations. Factors that cause Financial Distress are difficulties that are found in internal factors and also external factors. Internal factors are similar to companies that cannot manage their own company finances properly, while external factors are caused by conditions outside the company that are in trouble. This condition is similar to the condition that is being experienced by many global countries, namely the Covid-19 pandemic.

The Covid-19 pandemic is a global health emergency that affects every country in the world. The condition is caused by a new virus known as SARS-CoV-2. The Covid-19 outbreak was first detected in the city of Wuhan, Hubei, Taiwan on December 31 2019, and was later declared a pandemic by the World Health Organization (WHO) on March 11 2020. Covid-19 is a respiratory system infection that is transmitted via the particles enter the patient's mouth and nose which are spread by coughing, sneezing, and other activities such as talking and breathing. This virus is easily transmitted so that many people are infected, every day the incidence of Covid-19 sufferers is increasing and spreading to all regions in Indonesia.

The Covid-19 pandemic has made the economic crisis worse and has threatened many businesses which have been forced to stop, including large companies which have finally closed their operations. There are various government policies to suppress the spread of the Covid-19 virus. Policies to limit people's movements ranging from Large-Scale Social Restrictions to Level 4 Restrictions on Community Activities, so that the company's operational movements are disrupted (Kompaspedia, 2021).

In the current regular period, some businesses suffer significant losses, and others continue to operate as usual to avoid losses. Bankruptcy occurs as a result of the company experiencing financial difficulties during operational activities which require substantial costs. The business constitution states that businesses fail when it comes to handling finances. Bankruptcy is a failure to achieve a goal which includes economic failure and financial failure. Failure in the economy (economic failure) can be associated with the company's inability to generate sufficient income to cover accrued bills and interest, while financial failure can be associated with the company's inability to properly manage cash inflows or outflows (Setiadi, 2019).

A company may be able to avoid bankruptcy if it can make preliminary estimates before experiencing it. One way is to do a Financial Distress analysis. Financial Distress can affect the condition of the company, both in a healthy and unhealthy condition. Financial Distress Analysis is a method for preventing business failures and protecting against them by conducting horizontal and vertical analysis of a company's financial records. Analysis that compares transaction values over a certain period of time or over a certain number of days is known as horizontal analysis.

II. LITERATURE REVIEW & HYPOTESIS

Signalling Theory

This knowledge explains how a company should provide signals to users of financial statements (Tandelilin, 2010: 117). Signal Theory explains the importance of companies in disclosing information to the public in the form of financial reports, company policies, or other information that is voluntarily disclosed by company management.

Brigham and Houston (2006:36) state that Signal Theory describes the actions taken by management to provide direction or information to investors or creditors regarding the company's prospects. Signal theory refers to the company's drive to provide more complete financial statement information compared to information held by external parties.

Information published by the company as a notification to provide a signal to investors in making investment decisions. Signal is a form of information about what has been done by an administrator to meet the wishes of the owner. According to Brigham & Houston (2014) the information provided by companies to the public is important, because it influences external investment decisions. This information is important for investors and business people. This is because information is essentially a record or description of the past, present and future conditions of the company's continuity and how it affects the company. Signal theory related to financial distress can be said when information about company profits and prospects is obtained, but when the company's financial situation and prospects are bad, management does not disclose much information or delay company information. *Financial Distress*

as two extremes, namely between short-term liquidity and insolvable, which means that Financial Distress is generally short-term in nature, but can be severe enough to make a company insolvable (Hanafi et al, 2007: 278). Financial Distress is a condition that describes the state of a business that is in financial difficulty, namely the business is in a precarious position in facing the threat of bankruptcy or the cessation of business operations.

Companies that are facing financial difficulties can be identified from the signs that appear. These signs include companies delaying payment of their debts to banks, delays in shipping goods, declining quality of company products, and so on. According to Raflis & Arita (2021) these distress signals include delays in delivery, decreased product quality, and delays in payment of bank bills. By knowing these things, the company will be able to anticipate it so that it does not experience more serious financial difficulties than before.

How to find out if a business is experiencing financial difficulties can be done by analyzing the company's financial statements. Financial reports can be used as a tool to analyze a company's financial position. According to Widarjo & Setiwan (2009) financial statements are used to see the financial strength of a business which is expressed by a ratio and will reflect the ability to manage the business, distribution of assets, efficient use of assets, income that has been achieved, obligations that must be repaid, payment and possible bankruptcy risk.

Financial distress prediction is used to warn of early signs of bankruptcy. Karina (2014) revealed that the earlier signs of bankruptcy are detected, the better it will be for management, because management can make improvements accordingly. Predicting a company's financial difficulties can be done with the help of Financial Distress Analysis. Financial distress analysis involves analyzing the company's financial position using the company's financial ratios. According to Fitriyah & Hariyati (2013), financial ratios are numbers obtained from comparing an item in the financial statements with other items that have a relevant and significant relationship. According to Sayari & Mugan (2013), the purpose of financial ratio analysis is to obtain financial ratios by providing information about future events and can be used in models to predict bankruptcy or financial distress.Salah satu model yang memprediksi *Financial Distress* suatu perusahaan adalah model *Zmijewski*, yaitu suatu metode yang digunakan untuk mengetahui kesehatan keuangan suatu perusahaan. Metode *Zmijewski* dapat membantu mengungkap perusahaan yang sedang mengalami *Finansial Distress*. Menurut Bilondatu *et al.* (2019) metode *Zmijewski* adalah metode penilaian kesehatan dan keberlanjutan operasi perusahaan dengan menggunakan tiga rasio keuangan, yang kemudian diolah menggunakan formula dengan akurasi 94,9%, yang dikenal dengan *Zmijewski X-Score*.

Metode Zmijewski

The Zmijewski model is an alternative probit model for regression analysis using the cumulative norm probability distribution (Grice & Dugan, 2003:80). Zmijewski's probit analysis uses financial ratios that measure performance, leverage, and liquidity to predict a company's financial distress. The Zmijewski method uses three financial ratios related to debt and income, namely:

1. *Return On Asset*
   Is a measurement of the company's overall ability to generate profits with the total assets available in the company (Syamsuddin, 2016: 63). The higher this ratio, the better the state of a company.
2. *Debt Ratio*
   Is a ratio that compares long-term debt with own capital (Wiagustini, 2013: 88). DER is the ratio used to assess debt to equity (Kasmir, 2016: 157). DER is a measure used in analyzing financial reports to show the amount of collateral available to creditors. So it can be said that DER is a ratio that compares the debt owned by a company with its capital.
3. *Current Ratio*
   Is the most commonly used measure to determine the ability to meet short-term obligations because this ratio shows how far the demands of short-term creditors are met by assets that are expected to turn into cash in the same period as the maturity of the debt (Sawir, 2015: 8).

Framework Chart

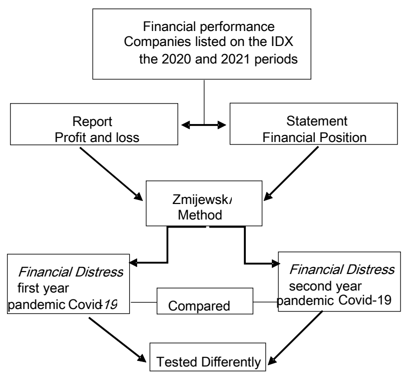

Figure 1. Thinking Framework

Companies may experience financial difficulties due to unstable environmental conditions. The situation in the form of the Covid-19 virus has caused changes in global economic conditions. According to Maulida (2018) these conditions can cause economic instability in both developed and developing countries. One of the countries affected by these economic conditions is Indonesia. Many things were the result of the turmoil that occurred in Indonesia which had a negative impact on key sectors of the economy, especially businesses based in Indonesia. Many companies have been affected by shocks due to unstable economic conditions in Indonesia, including manufacturing companies.

Companies that experience financial difficulties in the first year of the Covid-19 pandemic are not necessarily experiencing a more severe level of financial difficulties than the second year of the Covid-19 pandemic. It is also possible that their financial performance will improve during the second year of the Covid-19 pandemic. So there were varying degrees of financial difficulty in the first and second years of the Covid-19 pandemic. This is in accordance with Zulaikah's research (2016) which states that when there was a global economic crisis in 2008, predictions of Financial Distress in Islamic banks in Indonesia and Malaysia experienced a change in the level of decline before the crisis, thus showing a significant difference between the financial difficulties of Islamic banks in Indonesia and Malaysia. The same thing is in Widiani's research (2016) which states that there are differences in the level of banking financial strength before and after the global crisis when using the financial index ROA, ROE, Operating Expenses Operating Income, NonPerforming Loans, and Loan to Deposit Ratio. In addition to the global crisis, there have been mergers and acquisitions that have resulted in varying degrees of financial distress. However, Septiawan's research (2018) shows that there is no difference in financial performance before and after mergers and acquisitions for both businesses experiencing financial difficulties and businesses that are not experiencing financial difficulties.

From the framework and results of previous research, a hypothesis can be made: "There are differences in the level of financial distress in companies in the first and second years of the Covid-19 pandemic."

III. METHODOLOGY

The type of research used is quantitative research using a comparative study design. Quantitative research is done by explaining, testing and choosing the relationship between the variables studied. Quantitative research uses data in numerical form. According to Sisbintari (2010) comparative research is research that compares several situations and on that basis, hypotheses are made about the causes of the differences in situations that occur. The population used in this study are manufacturing companies listed on the IDX in 2020-2021. The sampling technique used in this research is purposive sampling. The data used in this study are the financial reports of each manufacturing company listed on the IDX for the 2020-2021 period which have been published on the IDX website (idx).

In this study, Financial Distress can be measured using the Zmijewski method, which is used to predict the survival of a business entity or company. The Zmijewski method uses three financial ratios arranged in the basic equation X=-4.3-4.5X1+5.7X2-0.004X3. The three financial ratios are ROA, DER, and CR.

1. $ROA = \frac{\text{Net Income}}{\text{Total Asset}}$
2. $DER = \frac{\text{Total Liabilities}}{\text{Total Asset}}$
3. $CR = \frac{\text{Current Assetar}}{\text{Current Liabilitie}}$

In the Zmijewski method equation is X=-4.3-4.5X1+5.7X2-0.0043+ with X1 as ROA, X2 as DER and X3 as CR. The cut-off used in this model is 0. If the 1X-score results are positive, then the company is said to be unhealthy, whereas if the X-Scor results are negative, then the company is said to be healthy (Grice and Dugan, 2003:79). Tests in this study using the Chi Square test.

IV. RESULT AND DISCUSSION

The objects in this study were manufacturing companies listed on the Indonesia Stock Exchange in 2020 and 2021. There were 29 samples found, multiplied by 2 years of research (29x2), so the final sample in this study was 58 units.

Data from 2020 and 2021 are converted into a form that can provide information to describe a series of factors in a condition which includes the minimum value, maximum value, average value, and standard deviation value. Statistical results for each variable can be seen in table 1.

TABLE 1. Descriptive Statistics

Value	N	Min	Max	Mean	Std. Deviation
FD 2020	29	-294.56	11.01	-8.7175	55.08636
FD 2021	29	-3.11	11.95	2.4582	2.98344
Valid N (listwise)	29				

Source: Data Processing, 2023

Based on table 1, it shows that the amount of data that has been analyzed in 2020 and 2021 is 58 data. In 2020 the minimum value is -294.56 at PT Sentra Food Indonesia Tbk. The lowest number indicates that the company is relatively unlikely to experience financial distress because the value is negatively correlated. The maximum value obtained by PT Argo Pantes Tbk is 11.01 with a mean value of -8.7175 and a standard deviation of 55.08636. In 2021 the minimum value is -3.11 at PT Golden Flower Tbk. The maximum value at PT Argo Pantes Tbk is 11.95. The highest number means that the company has great potential to experience Financial Distress based on the Zmijewski method because the resulting value has a positive correlation. The mean value is 2.4582 and the standard deviation is 2.98344.

TABLE 2. Chi Square Test

Criteria	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	0.830	1	0.362

Source: Data Processing, 2023

Based on table 2 it is known that Chi Square (p) 0.830 > 0.05, so it can be concluded that there is no significant difference in the level of Financial Distress. For Crosstabulation results can be seen in table 3.

Akhmad Bagus Sudrajat and Yuli Tri Cahyono, "Analysis of Differences in the Levels of Financial Distress in the First and Second Years During the Covid-19 Pandemic," *International Journal of Multidisciplinary Research and Publications (IJMRAP)*, Volume 6, Issue 1, pp. 199-202, 20123.

TABLE 3. Crosstabulation

Criteria		Financial Distress 2021		Total
		Negative	Positive	
Financial Distress 2020	Negative	2	5	7
	Positive	3	19	22
Total		5	24	29

Source: Data Processing, 2023

Based on table 3, it shows an increase in Financial Distress from 22 companies in 2020 to 24 companies in 2021 during the Covid-19 pandemic. Companies that were previously safe and then went bankrupt in the second year are PT Garuda Maintenance Facility Aero Asia Tbk and PT Keramika Indonesia Association Tbk.

V. CONCLUSION

A comparison of the company's Financial Distress level during the first and second year of the Covid-19 pandemic obtained the following conclusions:

1. There is no significant difference in the level of Financial Distress between the first and second years of the Covid-19 pandemic.
2. In 2021 there will be an increase in the Financial Distress of two companies, namely PT Garuda Maintenance Facility Aero Asia Tbk and PT Keramika Indonesia Association Tbk.

Limitations:

1. This study uses only one variable, namely Financial Distress. There are still several variables that are used as research objects that may be affected by the Covid-19 pandemic.
2. In this research, data is generated only from financial reports published by companies on the IDX, so that conclusions are drawn only based on data collected and analyzed by researchers.
3. The period of observation years used in the study is relatively short, namely two years.

Suggestion:

1. For further research, it is recommended to use other Financial Distress prediction methods such as the Altman Z-Score, Springate, Grover and others, so that the data and results are more accurate and can be generalized to a wider group of objects.
2. There needs to be ongoing research that is intended to be able to see and assess any changes in the company's financial statements from one period to another.
3. It is hoped that further research will add other variables that may also affect many things related to the influence of the Covid-19 pandemic.

REFERENCES

[1] Agnes, Sawir. (2015). Analisa Kinerja Keuangan dan Perencanaan keauangan Perusahaan. Jakarta: PT Gramedia Pustaka Utama.

[2] Azizah, A. H. (2021). Analisis Perbedaan Tingkat Financial Distress Menggunakan Metode Zmijewski Sebelum dan Selama Pandemi Covid-19. Doctoral dissertation, Universitas Brawijaya.

[3] Bilondatu, D. N., Dungga, M. F., & Selvi, S. (2019). “Analisis Model Altman Z-Score, Springate, dan Zmijewski Sebagai Metode dalam Memprediksi Kondisi Kebangkrutan pada PT Garuda Indonesia Tbk Periode 2014-2018.” Jurnal Aplikasi Manajemen dan Inovasi Bisnis.

[4] Brigham, Eugene F dan Houston. (2006). Fundamental of Financialmanagement: Dasar-Dasar Manajemen Keuangan. Edisi 10. Jakarta: Salemba Empat.

[5] Fitriyah, Ida dan Hariyati. (2013). “Pengaruh Rasio Keuangan Terhadap Financial Distress Pada Perusahaan Properti dan Real Estate”. Jurnal Ilmu Manajemen. Fakultas Ekonomi Universitas Negeri Surabaya.Vol.1No.3.

[6] Grice, J. S dan Dugan, M.T. (2003). Re-estimations of Zmijewski and Ohlson Bankruptcy Prediction Model. Journal of Advance in Accounting Vol 20:77-83. Elsester, Ltd.

[7] Hanafi, M. Mamduh. (2010). Manajemen Keuangan Yogyakarta: BPFE.

[8] Kompaspedia, 2021. Kebijakan covid-19. Diakses 20 April 2023. https://kompaspedia.kompas.id/baca/infografik/kronologi/kebijakan covid-19-dari-psbb-hingga-ppkm-empat-level

[9] Karina, S. D. (2014). Prediksi Kebangkrutan pada Perusahaan Media yang terdaftar di Bursa Efek Indonesia. Doctoral dissertation, Politeknik Negeri Sriwijaya.

[10] Maulida, I. S., Moehaditoyo, S. H., & Nugroho, M. (2018). Analisis rasio keuangan untuk Memprediksi Financial Distress pada perusahaan manufaktur yang terdaftar di bursa efek Indonesia 2014-2016. Jurnal Ilmiah Administrasi Bisnis Dan Inovasi, 2(1), 180-194.

[11] Raflis, R., & Arita, E. (2021). Impak Struktur Modal, Struktur Kepemilikkan dan Karakteristik Perusahaan Terhadap Financial Distress dan Financial Health Perusahaan. Jurnal Ekonomi Dan Bisnis, Dharma Andalas, 23(1), 135–149.

[12] Sayari, N., & Mugan, F. N. C. S. (2013). Cash flow statement as an evidence for Financial Distress. Universal Journal of Accounting and Finance, 1(3), 95-103.

[13] Septiawan, I. P. (2018). Analisis Perbandigan Kinerja Keuangan Perusahaan sebelum dan Sesudah Merger dan Akuisisi Periode 2011-2014. E-Jurnal Akuntansi Universitas Udayana, 24(1), 687-714.

[14] Setiadi, hartoko (2019). "*Buku pemeriksaan akuntansi (teori dan praktek)*.

[15] Sisbintari, Ika. (2010). "Analisis Komparatif Harga Saham Sebelum dan Sesudah Pembagian Dividen: Studi pada Perusahaan-Perusahaan Sektor Properti yang Terdaftar di Bursa Efek Indonesia (BEI) Tahun 2010." Jurnal, Fakultas Ilmu Sosial dan Ilmu Politik, Universitas Jember.

[16] Sudiantini, D., Rahmah, N. T., Fahriansyah, M., & Alviansyah, M. Y. (2023). Penerapan Manajemen Strategik Dalam Menghadapi Pandemi Covid 19. Jurnal Ekonomi, Bisnis dan Manajemen, 2(2), 213-224.

[17] Tandelilin, Eduardus. (2010). Portofolio dan Investasi Teori dan Aplikasi. Edisi pertama. Yogyakarta: Kanisius

[18] Wiagustini, Ni Luh Putu. (2013). Dasar-Dasar Manajemen Keuangan. Denpasar: Udayana University Press.

[19] Widarjo, Wahyu dan Setiawan, Doddy, (2009). “Pengaruh Rasio Keuangan terhadap Kondisi Financial Distress Perusahaan Otomotif”. Jurnal Bisnis dan Akuntansi Vol.XI No.2, Agustus 2009, Hal 107-119.

[20] Zulaikah, S. d. (2016). Perbandingan Financial Distress Bank Syariah di Indonesia dan Bank Islam di Malaysia Sebelum dan Sesudah Krisis Global 2008 Menggunakan Model Altman Z-Score. Jurnal Ekonomi Syariah Teori dan Terapan, 3 (11), 900-91.

Akhmad Bagus Sudrajat and Yuli Tri Cahyono, “Analysis of Differences in the Levels of Financial Distress in the First and Second Years During the Covid-19 Pandemic,” *International Journal of Multidisciplinary Research and Publications (IJMRAP)*, Volume 6, Issue 1, pp. 199-202, 20123.